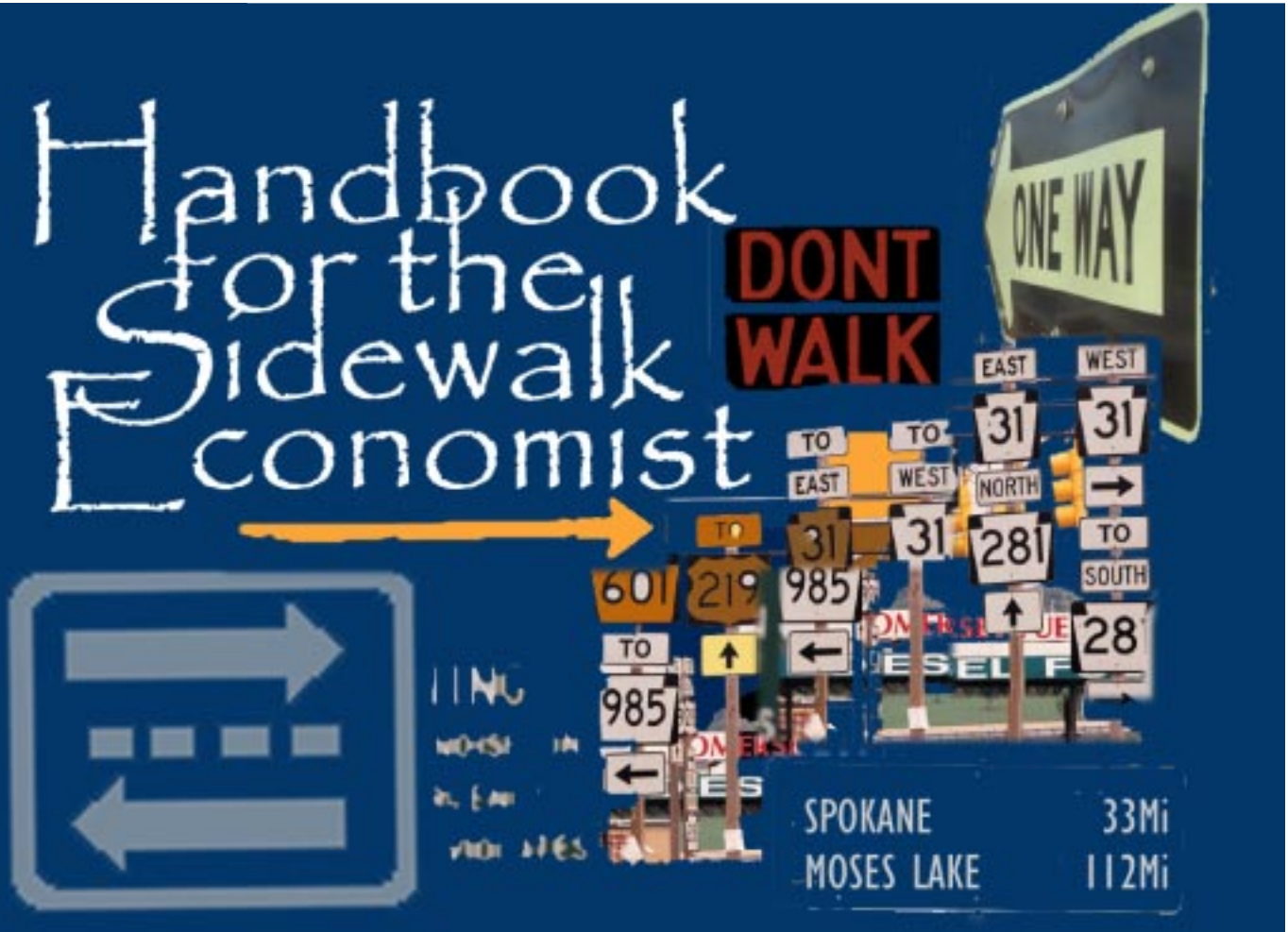
Handbook for the Sidewalk Economist



Washington State Employment Security Department
Labor Market and Economic Analysis

Handbook for the Sidewalk Economist

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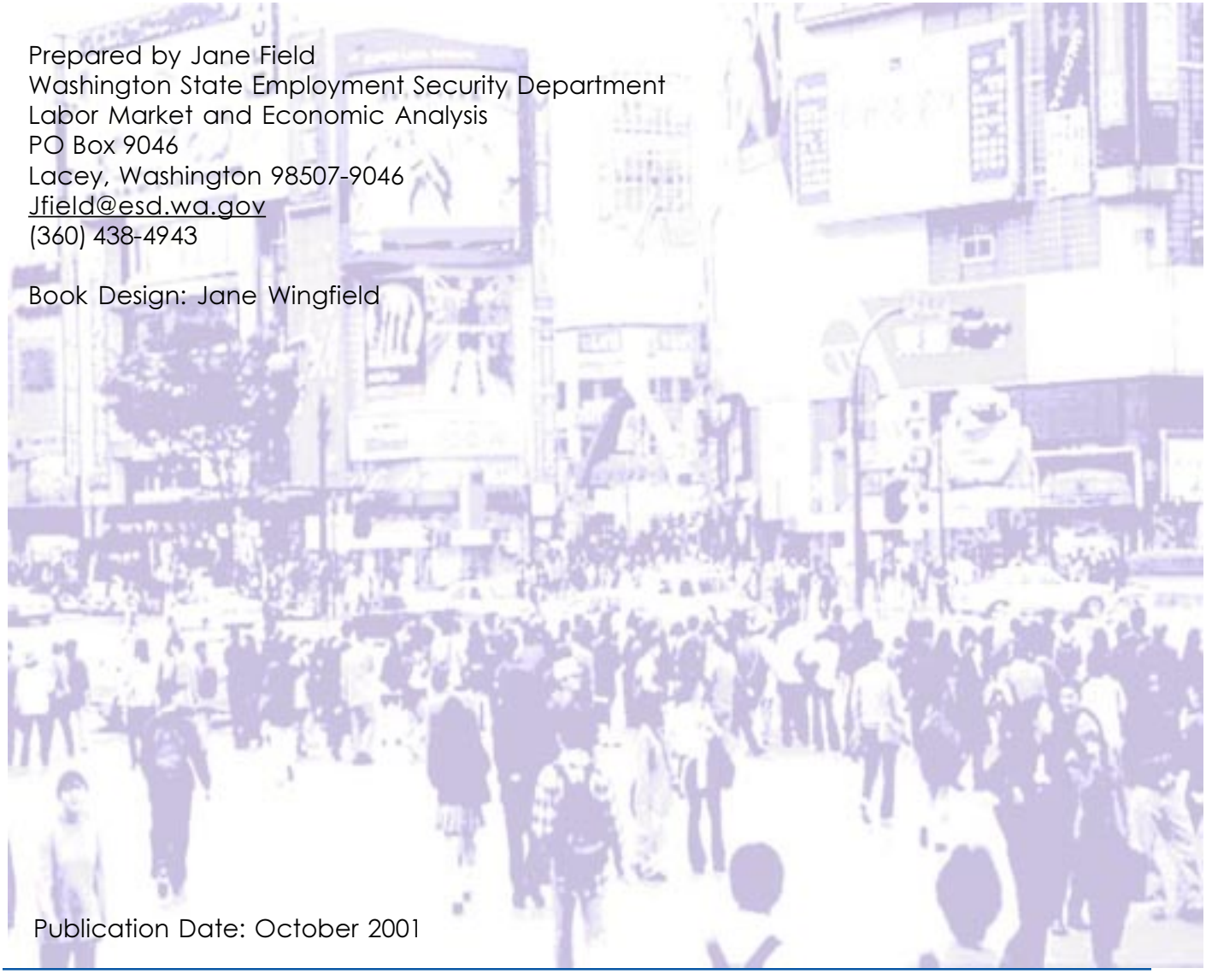

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Handbook for the Sidewalk Economist

Have you ever traveled down a street and thought to yourself, "Wow, look at the Help Wanted signs on the marquee; the labor market must be tight!"

Or, perhaps you have noticed the number of businesses that are boarded up and are for sale. Have you ever counted the number of automobiles parked in the mall and found yourself speculating about the health of the retail business? Or experienced the building of a new residential development near your home? All of these events are informal economic measures of the health of the local economy. You are a sidewalk economist!

The intent of this workbook is to take some of these personal experiences and observations and connect them to the world of economic data available through the Labor Market and Economic Analysis (LMEA) division of the Washington State Department of Employment Security.

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You may be an employment professional in a local WorkSource office, responsible for job counseling, job development, or job training. Or, a vocational program developer. Whatever your job title, you want to be primed for the changes that happen in a dynamic economy. This workbook explains some of the key Labor Market Information (LMI) data that can help you stay on top of these changes.

You might be inclined to ask, "Why should I bother? The only LMI data my clients need are wages for the occupations they wish to enter". Your clients want more than wage information. They also want to know where the employment opportunities are, and what skills they will need to compete successfully for the jobs they desire. LMI data give job seekers the tools to help them make the best career decisions for them.

You may make the assumption that economic conditions are similar from labor market to labor market and from time to time. In fact, the economic conditions are not similar from labor market to labor market, and some of these differences will surprise you. Over time, there have been major shifts in the types of industries providing goods and services to consumers and in the employment opportunities industries offer. Understanding these shifts is just the first step to orienting yourself to the employment opportunities that are taking shape before our eyes.

Incorporating economic data into the employment plan offers several advantages to your clients. With Labor Market Information (LMI), clients may have a clearer understanding about the kinds of jobs available in the local labor market, their wages, the future outlook for these jobs, industries that use these specific skills, and typical employers.

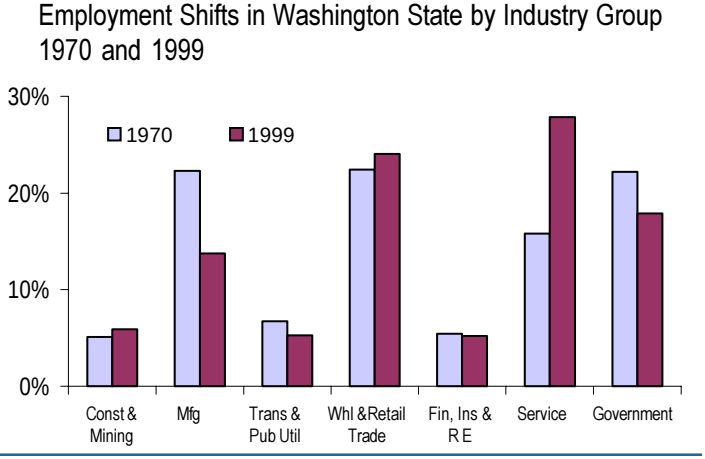
Labor Market Information (LMI) provides a vast array of employment statistics that significantly enhance the possibilities for the success of any career plan. (For a complete listing of LMEA 5products and services, please check the Appendix page 51.)

There are some people who find economics as dry as bones, and who run the other direction when the topic of statistics comes up. Often, that attitude changes dramatically once they understand some core concepts and contemplate how their employment choices affect what they want to accomplish in life. Most of us make economic choices on a daily basis every time we look at our checkbook balance.

Let's start thinking about how the work place has changed in the past thirty years. In this chart looking at employment shifts by industry groups, it is easy to see some massive changes in the work force.

In 1970, the state's economy was balanced with three industries vying for the largest share of employment: Government, with 244,500 employment; Wholesale and Retail Trade, with 240,800 employment; and Manufacturing, with 239,400 employment.

By 1999, the newcomer Services industry was clearly the largest employer with 736,100 employed. Retail and Wholesale Trade was in second place with 635,800 employment. Manufacturing, which was so prominent in 1970 grew the least of all of the industry groups. In absolute terms, the number of folks employed in manufacturing had increased, but at a much slower rate than the overall rate of increase. Thus, the availability of jobs in this sector was less than robust when compared to the economy as a whole.



The dramatic growth of the Services industry meant lots of employment opportunities if your clients had the training the employers were looking for. What assumptions are you making about the skills needed in this industry sector?

As an employment professional, you may be more comfortable thinking about occupations and jobs rather than industries. Still, you know that when a firm is expanding, it is likely to be adding new positions in certain occupations. When economists talk about the expansion of an industry, they are inferring growth in certain occupations.

Return to the chart and ask yourself which occupations are typically found in the Services group. Most people think Services consists of waitresses, cashiers, food preparation workers and the like: occupations that are low pay and high turnover. You might even say it's the Hospitality Industry. And you would be wrong on all three accounts!

The confusion arises because there is a difference between the Services *industry,* and Services *occupations.*

The Services *industry* includes a broad array of health, legal and business services, including Computer and Data Processing. This business group has been the fastest growing industry group in recent years; and, it will continue to grow very strongly in the near future. Many of the fastest growing occupations found here require high levels of education and specialized computer skills. Business services often involve contracts with self-employed con-

sultants; those self-employed consultants must hustle for every contract and work from project to project with little guarantee of continued employment.

The Services *occupations* include waitresses, cashiers, and food preparation workers, along with others. Those occupations commonly described as part of the Hospitality Industry are properly classified in the Retail and Wholesale Trade industry, not the Services industry.

Recently, headlines in the business section of the newspaper have touted the demise of high flying dot.com businesses. Intrigued by the possibilities of creating a new style of business over the internet, investors have flocked into a variety of business plans using the internet as a new marketing tool. These entrepreneurial efforts have attracted employees with a sophisticated level of skill in marketing, managing, and computer technology. Fueled with funds from venture capitalists, many of these employees took a chance that they could create a profitable business before the cash flow from the venture capitalists ran out. Now, however, businesses without a profitable business plan and without sufficient cash flow are either closing down or reorganizing their business plan and some employees are unemployed and searching for new jobs.

Some of these businesses were connected to the Services industry because they provided the necessary tools and applications, such as web design, web security, and internet traffic management, to do business over the internet; other businesses were considered

Retail Trade because they sold retail goods and services via the internet. Or, they were considered Finance, Insurance and Real Estate (FIRE) because they offered on-line banking and mortgage services.

Those who are unemployed as a result of these business closures should not be confused with those in the Services occupations.

Return to the chart and review again the snapshot of 1970 and 1999 industry groups.

Recognizing the profound shifts in industries and understanding the economic terms and concepts used to describe the labor market are the first steps we need to take in changing the way we do business.

As a sidewalk economist, you may access LMI data through computer technology and gain a more sophisticated understanding of the local economy.

Employment statistics are more readily available than ever before. In the past, these data were only available through hard copy publications and you had to know which publication had a certain type of data on a specific page for your labor market. The arduous task of accessing relevant data was time-consuming and unfocussed. With computer technology, this data is available with the flick of a finger.

As a sidewalk economist, you may access LMI data through computer technology and gain a more sophisticated understanding of the local economy. Indeed, all of the data used in the scenarios in this

workbook are available through Labor Market and Economic Analysis and the LMEA home page on the internet at: *http://www.wa.gov/esd/lmea*. The scenarios used in this workbook illustrate current data as of the date of publication. Supplementary workbooks and computer applications using labor market information have been developed independently and are available through LMEA.

What is a Labor Market?

Many employment professionals define a labor market as job seekers looking for employment, and that is part of the answer. Talk to employers, and they will offer that they are looking for the right people with the right skills for their type of business. The exchange of labor between job seekers and employers within a geographic area is a personal experience.

Talk about this exchange from an economist's viewpoint and the words become more abstract and less personal. Instead of talking about job seekers, the terminology shifts to "occupations"; instead of talking about employers, the terminology shifts to "industries". The intersection between occupations and industries within a geographic area is the same dynamic from the objective perspective as it is from the personal experience.

The concept "labor market" is very flexible. It may address the employment patterns for one, several or all industries. It may center on one, several or all occupations. It may tap a range of work skills needed by private and public sector employers or by union and non- union employers. It may refer to a county, a region, a Metropolitan Statistical Area (MSA) or the state as a whole. It may refer broadly to such regions such as Puget Sound, or central Washington.

Employment professionals, employers, public administrators, economists—all use definitions of the labor market that are crafted to meet the requirements of the work they are doing.

Employment professionals and public administrators familiar with unemployment insurance policies and practices will consider commuting patterns. They define a labor market area as an area in which a person can change jobs without changing her/her residence.

Employment professionals, employers, public administrators, economists — all use definitions of the labor market that are crafted to meet the requirements of the work they are doing.

LMEA economists require a large enough sample size in their surveys for their conclusions to be statistically valid and reliable. They carefully define the criteria used for occupations, industries and the geographic areas for their data. They require a high response rate from those being surveyed. And, they will publish that data only when the quality of the research exceeds established thresholds for professional level research.

Employers recruiting workers with skills in short supply might search beyond this state, and even beyond the country. They might define their labor market as global and recruit around the world.

As employment professionals, we need to know the principle occupations and industries within the geographic area closest to our job seekers. And, we need to know the economic dynamics of nearby labor markets where that knowledge might offer strategic advantages to our clients' job searches.

How are current industry statistics developed?

Most stories start with phrases such as "in the beginning" or "once upon a time". So what is the starting point for employment data? The historic beginning was the passage of the federal Social Security Act during the Great Depression. A key element was the establishment of an Unemployment Insurance program designed to mitigate the extreme ups and downs in employment in the manufacturing industry. The public policy was to provide ongoing financial support to families of assembly workers during those down times in the manufacturing production cycle and financial stability to the local economy.

Now, employers file a quarterly report when paying into the Unemployment Insurance fund. Almost everyone who is employed is covered whether they work full time or part time; the exceptions are corporate officers and self-employed, those on active duty with the armed services, those employed by religious institutions, and a few others.[1]

In the quarterly report, employers identify the number of employees working as of the pay period with the 12th day of the month for each month. They identify their employees by social security num-

[1] Other sources help to identify the 10 percent of employment not covered by unemployment insurance; they are added to the employment database to arrive at an estimate of the total employment.

ber, the number of hours worked and the total wages over the three months. They also identify the location of the business and the kind of business they have.

The kind of business they have is important in economic analysis. Every three years, businesses are surveyed to learn what products and services create the majority of their revenue. The answer is coded as a four-digit Standard Industrial Code (SIC).[2] Businesses with the same SIC are more like each other than businesses with other SICs, and employment data can be grouped together for an understanding of the employment opportunities found in this industry and in a specific labor market.

Economists and researchers in LMEA place a very high value on the database of information that the quarterly report provides. With more than 217,000 businesses active in Washington State and 90 percent of the workforce included in the quarterly report, this report paints a nearly complete and universal snapshot of economic activity in the state. It is a rich resource for purposes of analyses.

Let's say we are counseling Carlos, a young computer whiz who is interested in employment in the computer industry in Washington State. We can identify almost 3,200 firms in this industry group (SIC 737) employing almost 29,000 people. The industry wages paid to these

[2] At the moment, LMEA classifies businesses by four-digit SIC codes. Within the year, LMEA will change to NAICS coding. While NAICS coding is closely matched with SIC for most industries, there are some significant changes for certain industries. For example, prepackaged software will be coded within the Information group, a newly created category in NAICS.

employees varied greatly from an average of $45,164 in computer maintenance and repair to $388,420 in prepackaged software; and more than 90 percent of the people employed in the computer industry worked in prepackaged software.

Due to the wide variations within computer related industries and the employment wage and opportunities they may offer, Carlos will want to do further labor market research. He will want to understand the industry better, to know what occupations to train for, and learn about the potential employers and where they are located.

The coding structure for a four-digit SIC is organized by major industry groups (one-digit level), then subgroups within each major group (two-digit level), and subgroups of the subgroups (three-digit) level and so forth to the four-digit level.

The computer industry again will serve as an example. The Services industry is the major grouping at the one-digit level. Some of the subgroups are Business Services, along with Health Services, Legal Services and so forth at the two-digit level. Some of the subgroups of Business Services are Computer and Data Processing, along with Advertising and Personnel Supply Services at the three-digit level. Some of the subgroups of Computer and Data Processing are Prepackaged Software (SIC 7372), and Computer Integrated Systems Design (SIC 7373) and Computer Maintenance and Repair (SIC 7378).

Sometimes, data are suppressed for reasons of confidentiality. LMEA economists do not publish data under certain conditions. Employment data are not published if there are only one or two employers in the industry in a particular labor market. Employment data are not published if the employment of one firm exceeds 80 percent of the employment in that industry or in that occupation, regardless of the number of firms active in the labor market. This policy is intended to shield proprietary business information specific to the employer. The economic data reported by LMEA should not be construed to represent the business activities of any one firm or organization.

LMEA economists use mathematical models and statistics in reporting the shifts and variations in employment in each labor market. In general, the federal government has established standard definitions and protocol for these mathematical models and statistics; thus, data for the State of Washington can be compared with similar data from the State of Oregon, or any other state. These standards are consistent with generally accepted professional level research standards.

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How is industry employment forecast?

Economists at the federal level constantly monitor the current employment patterns in each of the industries with a SIC. Imagine taking a picture of the employment pattern each month this year or for several years for each of more than 400 industry groups. Federal economists share this level of detail with LMEA economists in developing forecasting models. Each year, LMEA economists recalculate and forecast the employment growth by individual industry for the next ten years.[3] The ten-year time frame is long enough to neutralize the cyclical effects of business expansion and contraction in the development of an overall average forecast rate. The methodology takes into account the growth rate compounded each year over the next ten years.

Let's return to Carlos who is interested in computer work in the metropolitan areas of eastern Washington. Where is the industry growing the fastest? What metropolitan area would be his first choice? What metropolitan area would be his least likely choice?

Carlos discovers through his research that the Spokane metropolitan area in this industry employed an estimated 1,274 employees in 1998 and is forecast to add 451 new employees by 2008 for an increase of

[3] You may ask how these mathematical models incorporate changes in economic public policy such as changes in the interest rate. The answer is they don't . A key reason for calculating a ten-year forecast is to remove the year to year influences of the business cycle from the overall employment trend. Since the ten year forecasts are recalculated every year for the next ten years, the policy effective at the time of recalculation may already be embedded in the mathematical trend.

35.4 percent. This compares favorably to the overall growth in employment of 14.5 percent for the Spokane metropolitan area.

In the TriCities, this industry employed an estimated 661 in 1998 and may expand by 43 by 2008, a much smaller number and at a tepid rate of 6.5 percent.

In Yakima, the industry employment was estimated to be 29 in 1998 and is expected to grow by only 10 employees to 39 in 2008. While this growth rate is 34.5 percent, just slightly less than Spokane, the net gain in employment is minuscule.

By reviewing each metropolitan area around the state, Carlos confirms that the Greater Seattle area had the lion's share of the computer industry.

The computer industry garners headlines in many newspapers because it is a highly visible, fast growing industry. Using labor market data helps to explain *where* this industry is located. In some labor markets, the computer industry is HOT, and in some labor markets, it is NOT.

How are jobs different from occupations?

Employers can and do create job titles and job descriptions tailored for their businesses. Because there may be local customs and conventions in naming jobs, just knowing the job title may not be enough to describe the work done, the skills needed and the wages paid. As a sidewalk economist, you will hear about jobs with titles such as "associates", "forklift operators", and "webmasters". As you probe more deeply into the work activities, you will discover some wide variations. The job title is the proverbial tip of the iceberg.

Job descriptions include a general statement about the nature of the work, the relative importance of various duties, the impact of the work activity, the scope of responsibility and authority, the type of tools used and the reporting relationships among staff in the organizational structure of the business. The job description, and not the job title, is the best link to the occupational coding system.

Jobs with similar skill sets are identified within a broadly described occupation and coded. In an ongoing effort to identify common occupational skill sets, the U.S. Department of Labor staff consult nationally with employers and use coding systems with the intent of encompassing the totality of the work force. The current dominant system with about 800 job titles is the Occupational Employment Statistics (OES). Its successor will be O*Net with about 1,300 job titles. O*Net is available now on the U.S. Department of Labor web site, even though it is under development as of 2001. Occupations are also grouped by levels of education and experience.

Savvy job seekers and employees will review their job descriptions and match them to the appropriate occupational code to compare the compensation offered against labor market standards. They may analyze their value to the firm and negotiate with employers for an appropriate wage. Employees considering a move to another job can compare the wage offered against the cost of living.

Let's say you are the employment professional for Ray who has worked many years as a "fork lift operator" in the Grays Harbor region; Ray is worried about the long-term prospects of his job at the local sawmill. By sorting through various job options, you find this language:

> **Industrial Truck and Tractor Operators** operate gasoline or electric-powered industrial trucks or tractors equipped with a fork lift, elevated platform or trailer hitch to move materials around a warehouse, storage yard, factory, construction site or similar location.

Ray may be called a fork lift operator by those in the mill, but for occupational coding purposes, he is an Industrial Truck and Tractor Operator.

Ray has reason to be concerned about the future employment outlook for this job over the next ten years. The long term forecast to 2008 for his industry, sawmills and planing mills is a decline of –3.9 percent. Even a possible shift in employment to an alternative industry, millwork, plywood and structural members, would be problematic since it is forecast to decline even more at –5.0 percent.

For the Grays Harbor region, Industrial Truck and Tractor Operators are forecast to grow at a rate of only 2.0 percent at a time when the overall employment is expected to grow by 14.4 percent.

A typical wage for an experienced worker was $14.42 an hour. Since work at the sawmill has been declining in recent years, his prospects for negotiating a better wage are not impressive.

How are occupational employment statistics developed?

LMEA economists, in accordance with federal protocol, first create a survey sample from its universe of employers paying unemployment insurance premiums. They randomly pull 25,000 employers out of a total exceeding 217,000 reporting firms so that the sample represents all industries and all employers with different size employment across all the geographic areas of the state. About 8,000 of these employers employing more than 200,000 are surveyed each year so that all 25,000 employers are surveyed only once in a three-year cycle. Data from the self-employed are developed independently and are added later to the labor force.

LMEA economists prepare a packet including directions for completing the survey, occupational descriptions, and wage criteria. Each employer receives this packet via U.S. Postal Service and voluntarily identifies the number of employees they have working in each occupational code, and their wages for the pay period including the 12th of a selected month. Staff phone non-responders to answer questions and collaborate with employers to complete the survey. Only after the response rate from employers exceeds 75 percent are the data calculated and published.

This data when it is analyzed will show how each industry group organizes its staff, the number of staff needed by occupational code (skill set), and the wages paid. For example, in Spokane region in Legal Services, there were 1,402 employed. The most typical occupations were:

Occupations	Number Employed
Lawyers	562
Legal secretaries	409
Paralegals	231
Law clerks	120
Receptionists	86
Accounting clerks	78
Messengers	38
Typists (incl Word Processing)	32

With a simple mathematical calculation for example, one can infer that 2.5 support staff were employed for every practicing lawyer in the Spokane region (1,402/562).

How is occupational employment forecast?

The first component in forecasting occupational employment is based on the industry trend. As an industry grows, there is a proportional increase in the occupations used in that industry. For industries that are growing, occupations will show a net gain in employment. For industries in decline, occupations will show a net loss.

The next component in the forecast is to determine the rate of replacement for those entering or retiring from an occupation. Replacement needs arise when workers leave occupations due to retirement, career changes, death, and so on. In occupations that are growing, openings due to replacement are simply added to the number of expected openings due to growth. In occupations that are declining, the decline in employment is subtracted from estimated replacement needs because there will be some positions that are not filled once vacated. The U.S. Bureau of Labor Statistics (BLS) provides replacement rates to all states.

The calculation of annual openings takes into account both the net gain and the replacement rate over ten years. The ten-year figure is annualized into annual openings.

Job Title	% Growth	Annual Openings
Lawyers	24.0%	48
Legal Secretaries	15.4%	14
Paralegals	82.1%	23
Law Clerks	-2.4%	2
Receptionists	23.7%	92
Bookkeepers	-2.9%	72
Messengers	12.0%	8
Typists	-10.2%	18
All occupations	**14.5%**	

How are occupational data used?

As an employment professional, you already know about the occupational codes and their related level of education and experience. With added information about current employment estimates, wage rates, and forecast growth rates, you might want to develop a training program.

Let's say you are an employment professional in Thurston County and you want to identify some health care occupations that require a high school diploma and maybe some specialized training as part of a community college vocational training program. In reviewing the coding system, you focus on Nursing Aide, Receptionist, Medical Secretary, Pharmacy Assistant and Pharmacy Technician. The employment data gives this level of detail.

Almost all of these occupations are forecast to grow in excess of the overall employment rate of 18.4 percent for Thurston County. The only exception is the Pharmacy Technician.

Occupations	Number Employed in1998	% Growth	Annual Openings
Nursing Aide	658	26.7%	27
Receptionist	1,000	34.8%	54
Medical Secretary	167	41.9%	10
Assistant	45	40.0%	3
Pharmacy Tech	45	8.8%	1
Avg Occup		18.4%	

Using this information, you might develop a training plan around such skills as medical terminology, office functions, roles and responsibilities and other functions identified by employers. The emphasis will be on the receptionist, since that is the dominant occupation with the most overall growth.

What are typical wages?

For those who are enrolled in the training program, what might be typical wages paid for these occupations?[4]

As an employment professional, you have LMEA resources to explain the local compensation practices and you may counsel your clients on how to achieve wage progression.

Occupations	First Quartile	Average	Third Quartile
Nursing Aide	$7.13	$8.55	$9.41
Receptionist	$6.73	$9.31	$11.19
Medical Secretary	$10.87	$13.53	$16.38

LMEA reports these wages using simple statistical terms. To calculate the average wage, add up all of the hourly wages paid to each employee in the occupation, and then divide the sum by the total number of employees.

The wages given as first quartile and third quartile require no calculation at all. Use your imagination and you'll quickly understand the statistical concept for these wages. Imagine one hundred employees of a particular occupation lined up in order of increasing wage rates so that the first one is paid the lowest wage and the employee in position #100 is paid the highest wage. The wage at the first quartile is the wage paid to the employee in position #25 and the wage at the third quartile wage is the wage paid to the employee in position #75.

Thus, the wages reported at the first quartile and third quartile best represent the middle 50 percent of employment and not the absolute lowest wage nor the absolute highest wage.

[4] Wage data for Pharmacy Assistant and Pharmacy Technician were not available.

What industries are likely employers?

Let's take this scenario another step farther. Let's find out which industries are likely to employ these occupations in your training program. You may want to ask some of the employers in these industries to advise you.

Occupations	Primary Employing Industry	% of Occ in Primary Industry	Secondary Employing Industry	% of Occ in Secondary Industry
Nursing Aide	Nursing and Personal Care Facilities	65%	Hospitals	16%
Receptionist	Offices and Clinics of Medical Doctors	21%	Personnel Supply Services	9%
Medical Secretary	Offices and Clinics of Medical Doctors	55%	Offices and Clinics of Dentists	17%
Pharmacy Assistant	Offices and Clinics of	53%	Hospitals	44%
Pharmacy Tech	Drug Stores	80%	Department Stores	11%

This chart illustrates that 65 percent of the Nursing Aides are employed in Nursing and Personal Care Facilities, and that another 16 percent find employment in Hospitals in Thurston County. Nine percent of Receptionists are employed through the Personnel Supply Services; temporary employment agencies might offer their expertise in the development of the program.

The chart also illustrates that 80 percent of the Pharmacy Technicians are employed in Drug Stores and another 11 percent are found in Department Stores. What do you do about this new information? How do you take this into consideration in planning your training program?

In effect, the occupational survey builds a bridge between industries (SIC) and occupations (OES) so employment professionals can learn the typical occupations needed by employers in a specific industry.

We can also turn the analysis on its head and reverse course to learn the typical industries that employ certain occupations.

Let's say Carol is a registered nurse in the King Region. She is looking for stable employment with a growing industry that would use her nursing skills. Using SIC, she learns that Hospitals are the primary employers for most registered nurses since more than one out of two registered nurses are employed in hospitals; she also learns that registered nurses comprise more than one out of four hospital staff. However, the growth of that industry is forecast to be only 2.6 percent for the next ten years when employment for registered nurses is forecast to grow by 11.5 percent.

She turns to other industries to assess their long term potential for employment. Carol looks into Offices and Clinics of Medical Doctors, and even though this industry hires one out of ten registered nurses, it is expected to grow by 15.1 percent compared to forecast growth for registered nurses of 11.5 percent.

Ultimately, Carol checks out Colleges and Universities as a potential industry. While this industry employs registered nurses at a slightly lower rate compared to the Offices and Clinics of Medical Doctors, the employment in this industry group is more robust and forecast to handily exceed the 11.5 percent growth for registered nurses with a growth rate of 26.8 percent.

Start with the basic assumption that the growth of the industry generates a similar growth among all of the occupations used by that industry. (See page 25: How is occupational employment forecast?) This chart illustrates the possibility that the net growth may be much greater in the Colleges and University group. The formula is simple: multiply the number employed by the industry growth rate. Of course, the analysis of the occupation would look at the replacement of nurses as well as the net growth in calculating the number of annual openings. Overall estimated annual openings for registered nurses were 400.

As a sidewalk economist, what would be your choice and why?

	Current Number Employed	Industry Growth Rate	Ten-Year Net Growth
Hospitals	7,910	2.6%	206
Offices and Clinics of Medical Doctors	1,738	15.1%	262
Colleges and Universities	1,343	26.8%	360

Who are the potential employers?

The SIC provides a direct link to potential employers in a labor market.

Let's return to Ray, the forklift operator, working in a sawmill in Grays Harbor. After reviewing the economic data for his occupation, Ray decides to check out the desirability of the Kitsap Region as a potential labor market.

Ray might expect that his occupation would grow somewhat slower than all occupations in this area (14.2 percent for industrial truck and tractor operators and 16.4 percent growth for all occupations), but the growth rate is certainly better than the 2.0 percent forecast for Grays Harbor. It is also likely that the kind of employer based on industry group would change from Sawmill Company to Public Warehousing. With his many years of experience as a forklift operator, he may be able to negotiate a better wage of $16.54 an hour with his new employer.

Ray may access all employers who fit the SIC for public warehousing and storage in Kitsap Region and he can create a list of 42 potential employers. It is true that many employers may not be hiring forklift operators at this time. However, Ray will have a targeted list of employers complete with contact name, address and phone number. He will use his personal skills and approach those employers; he doesn't have to wait for an employer to announce a job opening.

Employer information made public on the LMEA home page and on WILMA has been purchased from InfoUSA, the successor organization of American Business Information, Inc. (ABI). The purchase of this database was made possible through contract agreements with the U.S. Department of Labor.

Where are the job openings?

Usually, when we ask this question, the expectation is that certain employers have already contacted us to say they have a job opening and that as employment professionals we would refer to those job listings. But, let's rephrase this question. Is it possible to predict the coming job openings? Yes, LMEA economists do forecast the growth of occupations, and it is possible to predict the coming job openings.

In fact, LMEA economists have made occupational forecasts by the month, by the year, and over the long term. Employment professionals no longer have to wait for employers to announce publicly that they have job openings. The occupational projections have already been posted on the LMEA home page.

Let's say we have clients looking for jobs in the Clark County region near Vancouver.

The month to month occupational projections suggest that top hiring opportunities for General Office Clerks occur between March through June; for Food Preparation Workers, between February and June; and for Truck Drivers, Heavy, in June. It makes sense to apply for jobs when employers typically are hiring.

Over the next year or two, each of these occupations is forecast to grow, albeit at different rates.

Occupation	Growth in 1st Year	Percent Growth	Growth in 2nd Year	Percent Growth
General Office Clerk	62	1.8%	65	1.9%
Food Preparation Worker	96	2.4%	121	2.9%
Truck Driver, Heavy	36	1.5%	31	1.3%

If we want to look farther out into the future, we can access the ten-year data as well. Looking at Clark County, the employment data for these three occupations are as follows.

Occupation	1998 Employment	2008 Employment	Annual Percent Change	Annual Growth	Annual Job Openings
General Office Clerk	2,885	3,286	1.4%	40	106
Food Preparation Worker	1,270	1,857	4.6%	59	124
Truck Driver, Heavy	2,194	2,714	2.4%	52	83

Annual Growth represents the net increase in the employment of the occupation, whereas Annual Job Openings represents both the net increase and the replacement of employees in the occupation.

How precise are these occupational estimates? These estimates start with employment trends found among the various industries, and depend on the employer response to the occupational survey. While these forecasts are mathematically precise, there will be statistical variations. These variations may be quite large when the labor market is small.

With these forecasts in mind, the employment professional reviews the occupational patterns for each of these occupations to learn the industry most likely to employ these skilled workers. Once the industries are known, it is easy to take the next step to identify employers. Just as Ray did in the previous example.

Why look at population changes?

The quick answer is because some jobs are directly dependent on people; i.e. consumers. Consumer spending accounts for about two out of three dollars of goods and services produced in the economy. Where population is growing rapidly, jobs that satisfy the consumer will be growing at a pace with the population and more employment opportunities are available.

Let's say you are the employment professional for a general laborer who works in the residential housing industry. Consumers need a place to live whether home is a rental unit, a condominium, or a single housing unit. Would it be helpful for this general laborer to consider the impact of population growth on the availability of jobs in residential construction? By strategically living in areas with the fastest population growth, it may be possible for this general laborer to create the personal networks of friends and co-workers to find continuous employment building housing units during his/her entire work life.

We all enjoy eating and need to have grocery stores and restaurants nearby. We also drive from place to place, need gas for our cars, and mechanics to repair them. Or use some kind of public transportation.

The children in the community will be attending school; for every 25 or so children, the community will have a classroom and teacher.

The age of the population may influence the availability of certain kinds of health care. If there are many children, there may be more pediatric care; if there are many elderly people, there may be more nursing homes.

What do consumers need? What do consumers spend their money on? As sidewalk economists, we know what we spend our own money on, and we have some ideas about the spending habits of our friends and family. Observing our own behavior will offer insights into the high demand occupations now and into the future.

How large is the labor market?

As sidewalk economists, we can observe and maybe even sense the local economy growing and contracting. We may feel it when walking into the mall, or looking at the employment ads in the newspaper.

When the economy is hot, as it has been during the last several years, more people are pulled into the labor force and a higher percentage of the population is employed. When the economy cools, some lose their jobs and others become discouraged seekers and the labor force contracts. Thus, the size of the labor force is very elastic i.e. it fluctuates with the dynamics of the economy.

The civilian labor force includes all that are 16 years and older, and employed or seeking employment, and live within that geographic area. It includes workers even if they commute to a work location beyond the local labor market. It includes those civilians who work for the military, but it excludes those on active duty.

The standard protocol for calculating employment starts with a monthly survey of 750 households in Washington. These households are selected based on census data to represent everyone in the state and the survey takes into consideration such factors as proportion of minority renter occupied housing units, proportion of housing units with female householders, and proportion of owner-occupied housing units.

During the calendar week containing the 19th day of the month, interviewers contact a responsible person in each selected household. In the initial on-site interview, the surveyor records basic demographic information about each person in the household. Follow-up

contacts are made by phone. Each household is interviewed for four consecutive months, then skipped for the next eight months, then interviewed for four more consecutive months on a rotational basis.

The primary purpose of the labor force questions is to classify the sample population into three basic economic groups: the employed, the unemployed, and those not in the labor force.

This preliminary estimation is adjusted again, depending on variations in response rates, and variations in the demographic sample such as race, sex, and age. For example, there are 16 year olds coming into the work force, and those retiring from the work force.

This estimation also uses auxiliary data from the unemployment insurance claims, agricultural employment estimates and the current employment statistics program to correct for sampling errors due to small sample size.

Once the labor force status of the sample population is determined, the same status can be estimated for the whole population.

Every month, LMEA economists calculate the total employment and unemployment rate in accord with this governmental protocol. LMEA economists release each month's data to the press and then post the information on the LMEA home page. Data are available by major industry group, by labor market and by month or year.

As a sidewalk economist, your review of the month to month changes in industry employment will alert you to changes in the employment of typical occupations used in the industry.

How accurate is the state unemployment rate?

It is a reasonably accurate estimate.

At the national level, a stated unemployment rate might vary up or down by 0.2 percentage-points and be accurate 90 percent of the time. For example, an unemployment rate of 4.6 percent could just as well be anywhere between 4.4 and 4.8 percent and if we repeated the data collection and analysis using the same survey sample one hundred times, we would reach a mathematical value within this range 90 times.

At the state level, given the small sample size, there is a somewhat higher rate of variability; at the sub-state level, there is an even higher rate of variability.

Since every state follows the same federally established protocol, any statistical bias is replicated in the same manner and degree in every other state.

How are unemployment rates useful?

Unemployment rates are an indication of the competition for jobs. If you are a job seeker, there may be less competition for a desirable job when the unemployment rate is lower. If you are an employer, you may prefer to have a number of highly qualified eager candidates from which to hire, a situation more likely when an unemployment rate is higher.

Each labor market has its own unemployment rate. As an employment professional, you would be aware of the industry employment patterns and counsel your clients about their impact.

Let's say Sally is a newcomer to the state, and she grew up in a community where her family experienced the ups and downs of a manufacturing production cycle. She is seeking employment in a stable community with the lowest unemployment. You review the employment and unemployment rates in all labor markets and discover that the lowest unemployment rate, at 1.9 percent, is in the rural southeastern part of the state, near Pullman Washington. Here, the local economy is strongly influenced by the stabilizing presence of Washington State University.

Labor market areas with higher unemployment rates often have more seasonal employment and less full year employment than regions with lower unemployment rates. Historically, those regions with industries dominated by forestry, fishing and agriculture have higher unemployment rates; however there is some seasonal fluctuation in other industries such as the tourist industry and retail sales.

For example, we all know and expect the hiring of retail salespersons during the Christmas buying season, and then the termination of employment in January.

Labor markets may also experience structural changes in the economy. Employment in forestry and fishing has been declining for years and unemployment rates may be higher in these industries while laid off employees are engaged in retraining programs and seek work in other industries. In some instances, a major employer may be leaving the labor market.

As an employment professional, you might encourage one of several job search strategies.

You might suggest clients commute to a nearby labor market where there may be less competition for jobs. Or, you might encourage clients new to the work force to seek seasonal employment and develop career plans to transition into full time positions as they prove their employability and/or obtain additional training. And, you certainly would flag those declining industries and counsel clients to avoid them.

How is the cost of living measured?

As a sidewalk economist, you already know that a good paying job in a pricey labor market may not cover all of the costs of living in the area. In contrast, a good paying job in a low cost area may be a very desirable option. Finding a good paying job is just one factor in achieving financial sufficiency; living in an affordable area is another factor.

The index most familiar to the average consumer is the Consumer Price Index (CPI).[5] This national index is used to adjust social security payments, as well as labor and other contracts with a cost of living adjustment. In Washington, it is also used to adjust the state's minimum wage, now set at $6.72 an hour.

Prices on consumer goods and services are collected in 87 urban areas across the country, including the area around Seattle, and Portland Oregon. The Seattle area includes only the five urban counties of King, Snohomish, Pierce, Kitsap and Thurston. Data from Vancouver Washington is included in the Portland urban area.

The index is supposed to reflect the month to month changes in prices for a fixed market basket paid by the typical consumer. It is based on prices for food, clothing, shelter and fuels, transportation fares, charges for doctors' and dentists' services, drugs, and other goods and services that people buy for day-to-day living.

[5] This index, technically called CPI-U, represents spending patterns for about 87 percent of the non-institutional population.

If you were to look at a pie chart showing the proportion of cost by category, the largest piece of the pie would be the cost of housing, including rents or mortgage, insurance, fuel, utilities and repairs at about 40 percent. The next largest section would be a toss up between transportation at 17 percent and food at 16 percent. The CPI best represents the urban population, and not the entire state.

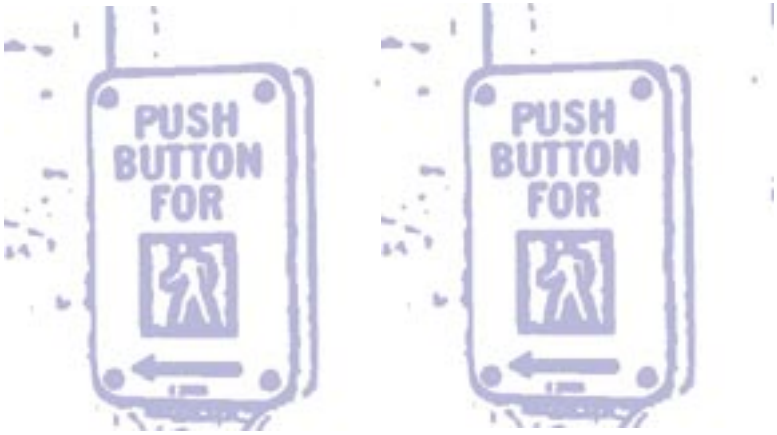
For those living beyond the urban area, there are limited measures that may serve as a proxy for area costs. One such measure is the average weekly wage reported by labor market area; the lower the wage, the lower the cost of living is likely to be. Wage data are gathered from the quarterly reports for unemployment insurance. The wage includes all dollars paid to all hourly and salaried employees including bonuses, incentive pay, and earnings received as stock options at the time they are converted into cash. They do not include benefits; however, earnings received at the time of conversion of stock options may be the 401-K retirement benefit from that employer.

As an employment professional, you and your client may carefully consider the potential earnings of a variety of occupations and compare those earnings against the average wage for that labor market. This is especially important since the variability of wages in a particular occupation will not vary as widely as the average wage for the labor market generally.

For example, Charmaine is a single parent with two young children. She is looking for an urban community with decent employment opportunities but not the high cost of living. With her skills as a General Office Clerk, she could earn an average of about $11 an hour or

$440 per week. Across the state, the average weekly wage in Washington was $687 or about $17 an hour. She makes a strategic decision to look for employment in less pricey, lower cost metropolitan areas in eastern and western Washington.

In 1999, Yakima in eastern Washington had an average weekly wage of $431, slightly less than Charmaine's target of $440. Bellingham, the urban area of Whatcom County in western Washington had an average wage of $492, or $52 above her salary expectations.



Putting it all together

Let's take this example and develop it more fully to summarize much of the labor market information available to employment professionals.

Charmaine learns the forecast growth for General Office Clerk and uses that as a standard for comparison. She is dismayed to discover that in Yakima, the growth rate for her occupation is forecast to be much less than the growth anticipated for all occupations, 7.3 percent compared to 11.0 percent. The estimated number of annual openings, 53, includes both the employment growth and the replacement of people leaving the occupation. The average wage for this occupation is $10.02, less than the $11.00 she had targeted.

The three industries that might have the most potential for hiring General Office Clerks are disappointing as well. Only the Personnel Supply Services industry has a growth rate forecast to grow in excess of the 11.1 percent; the other industries had a slower growth rate.

She turns her attention to Bellingham in Whatcom County.

In reviewing her salary expectations, Charmaine learns that the average wage for General Office Clerks is $10.13 an hour, and not the state average of $11.04. There are 67 estimated annual openings including employment growth and replacement and the growth rate for the occupation at 15.9%, again somewhat less than the all industries growth rate of 18.7 percent.

The three most prominent industries employing General Office Clerks in Bellingham are much more promising compared to Yakima. Colleges and universities are growing at 25.7 percent, personnel supply services are growing at 64.3 percent and individual and family services are growing at 58.1 percent. Due to the higher base number of employment for General Office Clerks, the targeted industry for the job search would be the colleges and universities around Bellingham.

Charmaine identifies potential employers using SIC code for Colleges and universities. The two largest employers are Western Washington University and Whatcom Community College, and there are several other possibilities. With this information in hand, she developed her job search plan and a strategy that would appeal to employers in an educational setting.

Worksheet for Charmaine

Labor Market		Population & Percent Change	Labor Force & Unemployment Rate	Average Weekly Wage	Future Employment Outlook
Whatcom	Most recent number	161,300	84,000	$492	95,039
	Percent	30.4%	5.0%		18.7%
Yakima	Most recent number	186,200	121,000	$431	123,265
	Percent	14.0%	8.1%		11.1%
WASHINGTON	Most recent number	5,757,400	3,081,300	$687	3,583,190
	Percent	21.8%	4.8%		17.8%

General Office Clerk	Whatcom Region	Yakima Region
Current Employment	1,722	1,769
Future Employment to 2008	1,997	1,899
Growth Rate	15.9%	7.3%
Annual Openings	67	53
Average Wage	$10.13	$10.02
Entry Wage	$8.18	$7.90
Experienced Wage	$11.89	$11.72
Primary Employing Industry	Colleges & Universities	Local Government
Second Employing Industry	Personnel Supply Services	Personnel Supply Services
Third Employing Industry	Indiv & Family Services	Preserved Fruits & Vegetables
Growth Rate of Primary Industry	25.7%	1.1%
Growth Rate of Second Industry	64.3%	24.6%
Growth Rate of Third Industry	58.1%	0.5%
Most Likely Employer	Western WA University	Yakima Police Dept
Alternative Employer	Whatcom Com College	Yakima District Office

How does this change how we "do business"?

As employment professionals, we have responsibilities for matching up job seekers and employers. This can be a difficult and daunting task since they have highly individualized viewpoints about what is needed.

Using labor market information allows you to give meaning to the economic events in your labor market, and focus on successful trends. Instead of waiting for the right circumstances to broker a match between job seekers and employers, you have the economic tools to act pro-actively and anticipate growing demands.

If you are looking for potential employers who might be seeking employees this month, check out the month to month changes in employment. Start with the top ten occupations that are growing in the current month, then link these occupations to the industries that employ these occupations. Once the industries are identified, you can find a complete list of potential employers. Go ahead and look at other occupations as well.

If you are looking for wage information, analyze the job description enough to assign it to an occupational code and just look up the wages. Wage statistics are readily available.

If you are looking for readily available job openings by occupation, go beyond the job listings posted by employers and go beyond the classified advertisements in your newspapers. Look up the month to month occupational projections, the one and two year occupational

projections. Find out the industries and the employers likely to employ these high demand occupations.

If you are looking for the types of companies active in your labor market, go beyond the yellow pages of the phone book and check out the industry coding system. Learn the number of firms active in your economy and how they organize their staff.

If you are looking for occupational descriptions, you will find several coding systems with complete descriptions.

If you recognize a mismatch between the skills in demand, and the skills available in the workforce, you can address the gap with the appropriate training programs.

If you are looking for historical demographic and economic data, you will find large quantities on the LMEA home page on the internet.

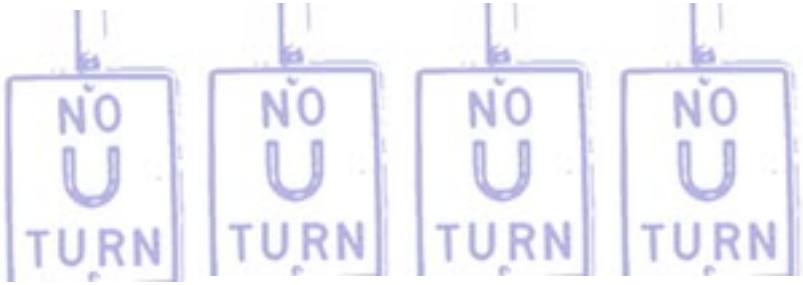
What you will not find is the most recent announcement about an employer's plans. That information will be available in the daily newspaper.

All of the LMEA data are based on statistical models. That means the data cannot and will not reflect moment to moment changes in the economy. The data are extremely useful for planning and strategic purposes. These numbers take on meaning through context and comparisons.

LMEA economists provide *systemic* economic information. Every employer is included and assigned an industry code. All employment is reported within the occupational coding system. Employment patterns are reported by industry, and conversely by occupation. Employment forecasts into the future are also reported by industry and by occupation. Wage data are publicly available to anyone seeking the information.

As sidewalk economists, we understand the employability of job seekers, what they can earn, who might employ them, what skills may be needed and what might be necessary to improve their earning capacity. As sidewalk economists, we work with employers who may have a clear idea of the skills needed to succeed in the business; after all, we serve as brokers facilitating an expedient match between job seekers and employers. Furthermore, as sidewalk economists, we may act pro-actively to identify and develop training programs where there are apparent mismatches in the supply of employees with the appropriate skills.

With ready access to labor market information, this is an exciting time to be an employment professional.



Appendix

INTERNET SITES

LMEA Home Page
This home page is designed for a wide range of users from the very sophisticated quantitative analyst to the first time user. The newest data is posted under the title "What else is new?" Click on the icons on the right or the black bars on the left and you'll see choices for Current Employment, Online Publications, Special Reports, Career Information, LMI by Area, LMI by Type, and WILMA. Many files are downloadable in PDF format or in Excel.
http://www.wa.gov/esd/lmea

WILMA on the 'Net
For easy access to job search-related data, start with this URL or the LMEA home page and click on the WILMA icon. Click on any of the Data Categories on the left side to discover data on Education, Employer Listings, Population/Census, Income/Wages, Industry, Labor Force, Occupation, Area Profiles, and Economic Indicators.
http://www.wilma.org/

Earnings Forecaster
The Earnings Forecaster displays occupations that match the criteria you have selected. Type in a name, and use drop down boxes to choose Education, Work Experience and Region criteria. Then, click on Create Earnings Forecaster Report. A variety of clicking options encourages a comparative review of job choices based on simple labor market criteria. http://www.wilma.org/forecaster/

Training Benefits
This web site identifies occupations that might qualify for training benefits. Occupations are organized by occupational clusters, number employed, and wage. Click on one occupational title to access information on Abilities, Interests, Knowledge, Skills, Tasks, Work Activities, Work Context and Work Values. Interests are categorized by Holland scores. Or tap into Skills Explorer Skills set developed by the state of Oregon.
http://www.wilma.org/wdclists

Occupational Outlook Handbook
This is the US DOL site for the Occupational Outlook Handbook. The text covers all occupations through easily accessed search options. Click on occupations in blue print and learn about the Nature of the Work, Working Conditions, Job Outlook, Earnings and Related Occupations. This is downloadable into PDF format.
http://stats.bls.gov/ocohome.htm

Occupational Codes
This is the US DOL site for the newest occupational coding system. O*Net codes are based on common skill sets for every occupation, and include a numerical scoring system to weight the importance of various skills. The coding structure also has crosswalks to other well-established occupational coding systems.
http://online.onetcenter.org/

Industry Codes
This is the home page for information about the newest industry coding system, the North American Industry System (NAICS); it replaces the 1987 Standard Industrial Classification (SIC). Industries have been reorganized to better reflect similar production processes and compatibility with Canada and Mexico practices. Complete information about the organizational structure of the coding system, its benefits, implementation process and history are available at this site. http://www.census.gov/epcd/www/naics.html

Census Data
This home page provides national and state Census 2000 data and more. Information about people, business, geographic detail, press releases and special topics is readily available at the next click; links also to Latest Economic Indicators and Housing Starts.
http://factfinder.census.gov/servlet/BasicFactsServlet

COMPUTER APPLICATIONS

WILMA on CD
This computer application is intended for the job seeker who is comfortable using computers and has some understanding of the coding systems used by LMEA. It has the latest data on occupational wages and projections, industry occupational patterns and employers presented in a visually pleasing format for various labor markets. It includes data regarding the population, size of the labor force, average wages and future employment projections. It is packaged with other computer applications as part of the LMI Resource Kit. To learn more, click on the LMEA Home Page and follow links to the LMI Resource Kit.

OCCUPATIONAL RESEARCHER'S COMPUTER ASSISTANT (ORCA)
This computer application is designed for those individuals who are interested in learning more about themselves, their work values, knowledge, skills and abilities in advance of selecting a few occupations for further discovery. Work values are determined first, then preferences regarding knowledge, skills and abilities. Organized around the Holland taxonomy, these criteria lead to O*Net occupations that match that criteria. It provides detail about the typical work tasks for each occupation and allows side-by-side comparisons between occupations. It is packaged with other computer applications as part of the LMI Resource Kit. To learn more, click on the LMEA Home Page and follow links to the LMI Resource Kit.

TRAINING

LMI trainers are available to provide customized 3-hour curriculum on these topics:

Re-entrants to the workforce
Plant closures and openings
Military to civilian life transitions
New entrants to the workforce
Vocational program development
Vocational rehabilitation
Business owners

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Washington State Employment Security Department
Sylvia Mundy, Commissioner
Labor Market and Economic Analysis Division

Washington State Employment Security Department
Labor Market and Economic Analysis